

REMARKS

Claims 1-22 are pending in the application. Claims 1, 9 and 10 are amended. Claim 5 is cancelled. The amendments are supported by the application as originally filed, and no new matter is added.

Claims 1-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wittenbrink et al. (Simon et al.) (WO 97/14769). Simon et al. are the attorneys of record. Applicant traverses the rejection to the extent that it can be maintained.

Briefly, applicants discovered a process for the production of middle distillates having a high Cetane number and good cold flow properties. The process includes hydrotreating one or more light fraction obtained from the steps of the process that result in a light fraction. The hydrotreating step removes undesirable oxygenates and heteroatoms that are detrimental to the Cetane number and to the storage stability of the resulting middle distillate. The claimed process also provides a diesel having a low degree of isomerization in the 160-279 °C fraction and a high degree of isomerization in the 270-370 °C fraction (page 12 lines 11-17). The steps of the process allow for the manipulation of the iso-paraffin to n-paraffin ratio across the ranges C₈ to C₉, C₁₀ to C₁₈ and C₁₉ to C₂₄ that leads to a balance of linearity and branching providing good low flow properties below -35 °C and a Cetane number over 70. The process provides middle distillates useful as diesel fuels having improved quality.

In sharp contrast, Wittenbrink et al. expressly disclaim the need to remove oxygenates by hydrotreating according to their process scheme (page 2 second paragraph, page 7 last paragraph). Although hydrotreating is acknowledged by Wittenbrink et al. as a means to eliminate oxygenates and unsaturation, Wittenbrink et al. immediately state that oxygenates are preferable to provide lubricity to high paraffinic diesel fuel (page 7 second paragraph to top of page 8 and example 8). The Wittenbrink et al. process provides distillate that intentionally retains oxygenates to provide product with high cetane number and high lubricity (Background of the Invention). Applicants' claimed process includes hydrotreating at least some of the light fraction only as a step in the process. Wittenbrink et al. do not teach or suggest hydrotreating at least some of the light fraction before blending with the middle distillate (step d) according to the claimed process.

The Office Action states that it would be obvious to combine the light fraction with the middle distillate because the boiling points of the fractions overlap. Even if correct, a point that Applicants do not concede, there is no basis for a person of ordinary skill in the art to hydrotreat at least some of the light fraction before the blending step. Applicants respectfully submit that the claimed process as a whole is not obvious in view of Wittenbrink et al..

The Office action also states that it would be obvious to one of ordinary skill in the art to blend fractions of distillate to achieve a particular mass ratio of n-paraffins to iso-paraffins. As noted in the Office Action, the claimed mass ratios for the heavier fraction are not disclosed by Wittenbrink et al.. Claims reciting mass ratios depend from claim 1 and further limit claim 1. For the reasons stated above, Applicants respectfully submit that claim 1 is allowable, and therefore, claims depending from claim 1 are likewise allowable.

Applicants respectfully submit that claims 1-22 are not obvious over Wittenbrink et al. and request that the rejection be withdrawn.

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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Date

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